

FIG.1
(PRIOR ART)

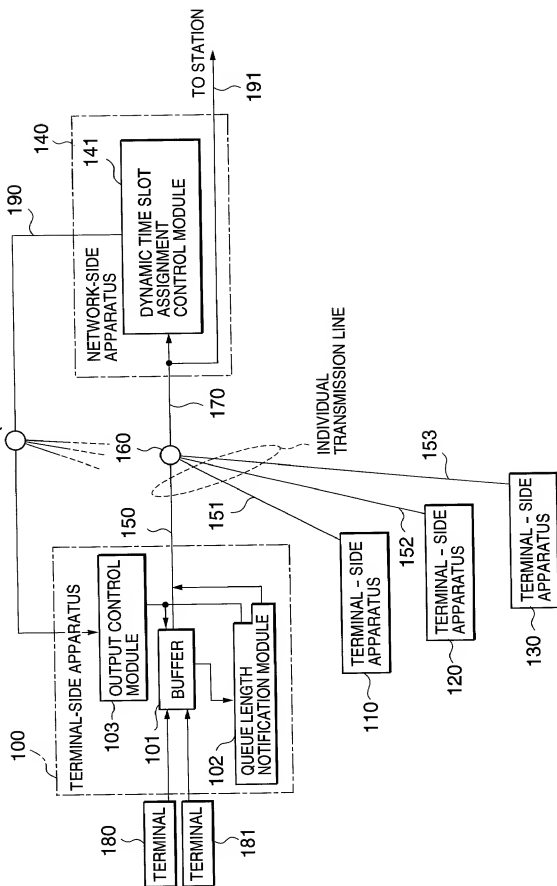


FIG.2
(PROIR ART)

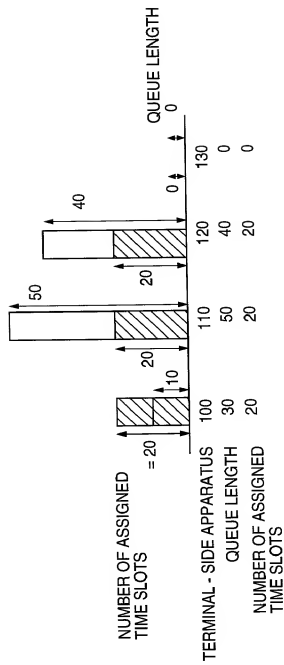


FIG.3

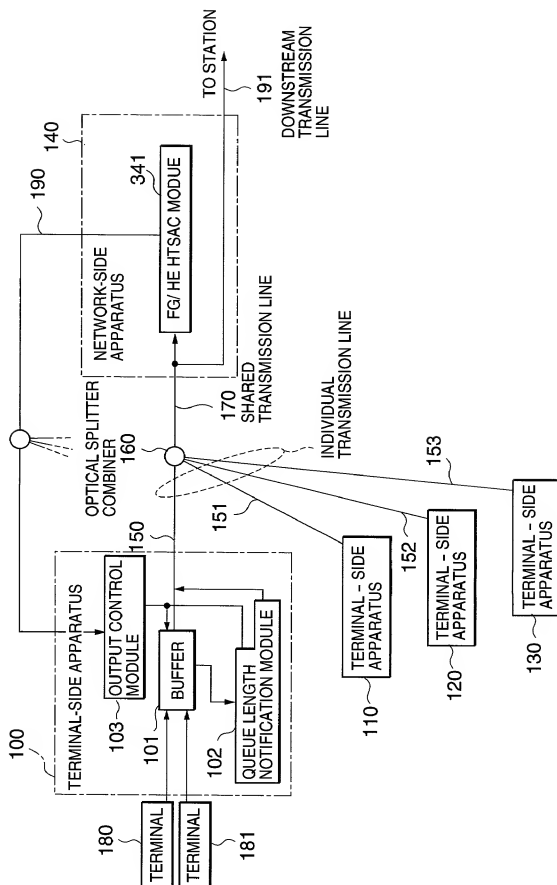


FIG.4

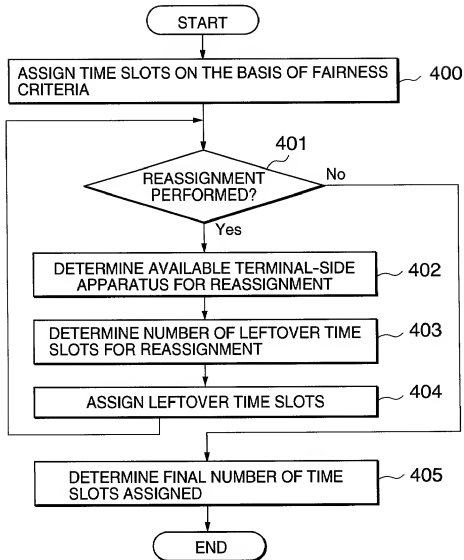


FIG.5

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|---|
| FAIRNESS CRITERIA |
| ASSIGN TIME SLOTS EQUALLY TO TERMINAL- SIDE APPARATUSES |
| ASSIGN TIME SLOTS IN PROPORTION TO SUM OF GUARANTEED MINIMUM BANDWIDTHS FOR CONNECTIONS IN TERMINAL - SIDE APPARATUSES |
| ASSIGN TIME SLOTS IN PROPORTION TO SUM OF MAXIMUM BANDWIDTHS FOR CONNECTIONS IN TERMINAL- SIDE APPARATUSES |
| ASSIGN TIME SLOTS IN PROPORTION TO DIFFERENCE BETWEEN SUM OF MAXIMUM BANDWIDTHS AND SUM OF GUARANTEED MINIMUM BANDWIDTHS FOR CONNECTIONS IN TERMINAL -SIDE APPARATUSES |
| ASSIGN TIME SLOTS IN PROPORTION TO NUMBER OF CONNECTIONS IN TERMINAL -SIDE APPARATUSES |
| ASSIGN A PART OF TOTAL TIME SLOTS EQUALLY TO TERMINAL-SIDE APPARATUSES AND THEN ASSIGN REMAINING TIME SLOTS IN PROPORTION TO SUM OF GUARANTEED MINIMUM BANDWIDTHS SUM OF MAXIMUM BANDWIDTHS DIFFERENCE BETWEEN SUM OF MAXIMUM BANDWIDTHS AND SUM OF GUARANTEED MINIMUM BANDWIDTHS FOR CONNECTIONS IN TERMINAL-SIDE APPARATUSES ,OR IN PROPORTION TO NUMBER OF CONNECTIONS |

FIG.6

| |
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| REASSIGNMENT ALGORITHM |
| ASSIGN BASED ON THE FAIRNESS CRITERIA USED IN THE PRIMARY ASSIGNMENT(SEE FIG.5) FOR REASSIGNMENT (FAIRNESS ALGORITHM) |
| QUEUE LENGTH AVERAGING ASSIGNMENT SUCH THAT THE VALUE OBTAINED BY SUBTRACTING THE NUMBER OF THE PRIMARILY ASSIGNED TIME SLOTS FROM THE QUEUE LENGTH BECOMES EQUAL OR SIMILAR TO EACH OTHER IN THE AVAILABLE TERMINAL - SIDE APPARATUSES FOR REASSIGNMENT (DISTRIBUTED MINIMUM ALGORITHM) |
| ASSIGNMENT OF THE TIME SLOTS IN PROPORTION TO THE QUEUE LENGTH IN THE AVAILABLE TERMINAL SIDE APPARATUSES FOR REASSIGNMENT (PACKET RATIO ALGORITHM) |

FIG.7A

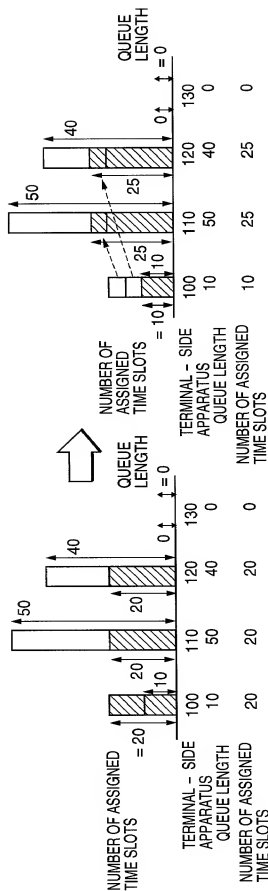


FIG.7B

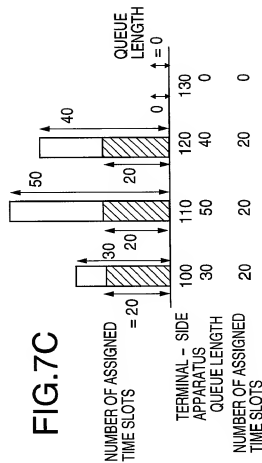


FIG.7C

FIG. 8A

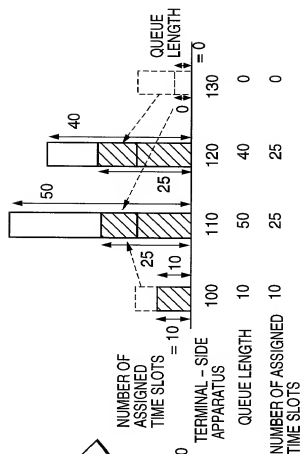
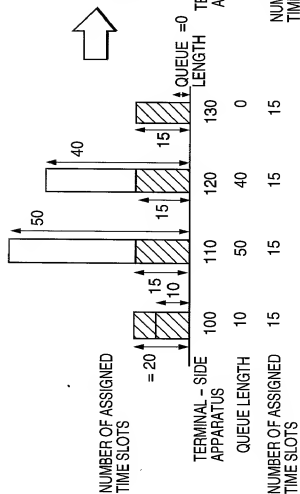


FIG. 8B

FIG.9

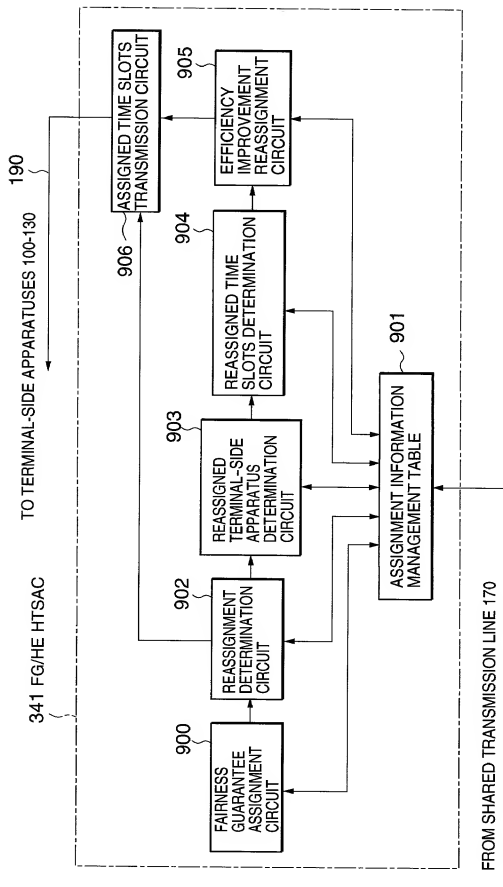


FIG.10

| # OF TERMINAL - SIDE APPARATUS | QUEUE LENGTH FIELD 911 | | ASSIGNED TIME SLOTS FIELD 912 | | REASSIGNMENT FLAG FIELD 913 | |
|-----------------------------------|---------------------------|--|----------------------------------|--|----------------------------------|--|
| | QUEUE LENGTH | | NUMBER OF TIME SLOTS ASSIGNED | | AVAILABILITY FOR REASSIGNMENT | |
| 100 | 10 | | 15 | | NOT AVAILABLE | |
| 110 | 50 | | 15 | | AVAILABLE | |
| 120 | 40 | | 15 | | AVAILABLE | |
| 130 | 0 | | 15 | | NOT AVAILABLE | |